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DIMENSIONS OF RELIGIOSITY AND SPIRITUALITY
AND THEIR RELATION WITH OPTIMISM

by Imogen E. Hall

A Thesis
Submitted to the Faculty of Graduate Studies and Research
Through the Department of Psychology in Partial
Fulfillment of the Requirements for the
Degree of Master of Arts at the
University of Windsor

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Abstract

Previous research on the connections between religiosity and optimism has identified several relationships between these two constructs (e.g., Sethi & Seligman, 1993; Schutte & Hosch, 1996). However, all research in this area has contained three main flaws: the researchers have imposed their own definitions on the construct of religiosity; each of these studies employed limited measures of religiosity, and have excluded the construct of spirituality; and each study used only one measure of optimism. The present study sought to clarify the relationships between religiosity, spirituality, and both attributional (Peterson et al., 1982) and dispositional optimism (Scheier & Carver, 1985). A sample of 1014 undergraduate students completed measures about their definitions of religiosity and spirituality. One hundred and fifteen of these students then completed measures of their degree of religiosity and spirituality, beliefs about God, and religious fundamentalism, as well as the Attributional Style Questionnaire (ASQ; Peterson et al.) and Life Orientation Test (LOT; Scheier & Carver) as measures of optimism. Results suggest that dispositional optimism is a better correlate of religiosity and spirituality than is attributional optimism. In addition, participants viewed themselves as more spiritual than religious, but did not consider these constructs mutually exclusive. The main component of religiosity and spirituality definitions was a desire for a positive inner state, while organized religious beliefs and practices emerged as the second component. The results of the present study highlight the need for researchers in this area to (a) avoid imposing artificial definitions on the constructs of religiosity and spirituality; (b) use multiple measures of these constructs; and (c) use multiple measures of optimism.

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INTRODUCTION

Research concerning the connection between mind and body has identified many psychological and behavioral factors that influence physical health (Wengler & Rosen, 1995). One of these factors, optimism, has been associated with less reporting of physical symptoms (Scheier & Carver, 1985), disease prevention (Seligman, 1990), and recovery from physical illness (Scheier et al., 1989). Optimism has also been identified as a component that enhances one's sense of well-being (Adams, Bezner, Drabbs, Zambarano, & Steinhardt, 2000). This literature has also examined the relation between religion (including the beliefs that individuals hold about God and the religious behaviors that are performed by individuals) and physical health (Zinnbauer et al., 1997). Time spent in religious activities has been linked with positive health outcomes for individuals (e.g., less hypertension and less self-report of depression), and has been identified as a key component of emotional well-being (McClure & Loden, 1982; Ness & Wintrob, 1980).

In spite of the fact that religiosity and optimism have both been linked with physical health, few researchers have examined the links between optimism and religiosity, or related concepts such as spirituality. However, the strong empirical connections between these factors and physical health suggest that it may be important to expand upon this work, and further clarify the connections between optimism, religiosity, and spirituality. The present study investigated how these three concepts are related, and was intended to both replicate and extend previous research in this area.

The first part of this thesis considers how researchers have defined optimism, religiosity, and spirituality. These definitions will be followed by a discussion of how

optimism, religiosity, and spirituality have previously been found to be related, and demonstrates the need for an expanded study of these constructs. Finally, the relevance of the present study, both empirically and practically, will be discussed.

What is Optimism?

In order to discuss how optimism is related to spirituality and religiosity, it is essential to understand how optimism has been defined and studied. Optimism has primarily been defined in two ways: in terms of individuals' attributions about the causes of events in their lives (attributional optimism; Peterson et al., 1982), and in terms of how positively individuals perceive their future (dispositional optimism; Scheier & Carver, 1985). Both of these definitions have been employed in past research, and each will be reviewed below.

Attributional Optimism

As defined by Seligman and his colleagues, attributional optimism is a pattern of perceiving events in such a way that people "believe defeat is not their fault" (Seligman, 1990, p. 5) while success is their own doing. Optimism is viewed as a pattern of attributions that are positive in nature, and permit individuals to persevere through adversity. Seligman's definition of optimism rests on three attributional dimensions: permanence (temporary vs. permanent), pervasiveness (specific vs. universal), and personalization (internal vs. external). Permanence refers to how long the cause of a specific event will persist ("It will only last a little while" vs. "It will last forever"), pervasiveness refers to how situation-specific the cause is ("It will only affect this one situation" vs. "It's going to affect everything I do"), and personalization refers to whether

the cause is located within the individual or a source outside the individual (“I caused this” vs. “Someone or something else caused this”). Optimists tend to attribute positive life events to permanent, universal, and internal causes, while they attribute negative life events to temporary, specific, and external causes. Pessimists display the opposite pattern of attributions. The way one perceives the causes of one’s life events is a reflection of one’s optimistic or pessimistic style, and Seligman and his colleagues have developed the Attributional Style Questionnaire (ASQ; Peterson et al., 1982) to determine the extent to which individuals make optimistic attributions about the causes of specific hypothetical life events. Seligman’s conception of optimism has been extensively studied and related to numerous positive emotional and physical dimensions, such as lower rates of depression and better overall physical health (Seligman, 1990).

Dispositional Optimism

Optimism has also been defined in terms of how positively one perceives the future. Scheier and Carver (1985) define such dispositional optimism as a globalized tendency to believe that one will experience good rather than bad outcomes in life. A positive outlook for the future is reflective of an optimistic style of thinking, while a belief in negative future outcomes is reflective of a pessimistic style of perception. Scheier and Carver’s measure, the Life Orientation Test (LOT) asks individuals to reveal the extent to which they think that they will do well in life, providing a more global and less situation-specific measure of optimism than that of Seligman and his colleagues. Scheier and Carver (1992) have linked dispositional optimism with both physical and emotional well-being. Andersson’s (1996) meta-analytic review of studies which

employed the LOT found this type of optimism to be significantly related to coping measures, less physical symptom reporting, and less negative affect. Wengler and Rosen (1995) also found dispositional optimism to be positively related to the ability to experience pleasure in everyday activities and situations.

How are Dispositional Optimism and Attributional Optimism Related?

The Life Orientation Test (Scheier & Carver, 1985) and the Attributional Style Questionnaire (Peterson et al., 1982) were found to be positively correlated in a recent empirical study (Hjelle, Belongia, & Nesser, 1996). Hjelle and his colleagues report that over four years of study, correlations between the LOT and the ASQ ranged between .25 and .45. These correlations suggest that dispositional optimism and attributional style share some conceptual overlap. Peterson (1991) noted that both concepts are “explicitly cognitive in nature and that each is related to the vigor or passivity with which individuals meet the demands of the world” (Hjelle et al., 1996, p. 511). However, the magnitude of these correlations is low to modest, indicating that the measures are not tapping into exactly the same construct. As such, the present study examined how both measures of optimism are related to spirituality and religiosity.

What are Religiosity and Spirituality?

Religiosity

One of the characteristics of research on religiosity is that researchers have traditionally studied only one or two aspects of this concept (e.g., belief in God, frequency of church attendance or prayer, or degree of fundamentalism of the religion) instead of using multiple measures of this construct. According to Caird (1987), measures

of religiosity that have been used in empirical research usually include only one of three components: cognitive (religious attitudes or beliefs); behavioral (church attendance or prayer); and experiential (mystical experiences such as visions). One of the cognitive aspects of religiosity that has been studied is a belief in God. Many studies of religiosity assess a belief in God using a 'yes/no' format (participants either indicate that they believe in God or they do not). Other researchers have been more specific and have assessed the type of God in which participants believe (Zinnbauer et al., 1997). Zinnbauer et al. asked individuals to choose one of five items that best described their own beliefs about the nature of God: Pantheistic (God is all around us, in nature, and in every person we meet), Theistic (God looks after us, listens to our prayers, responds to our needs, and protects us from evil), Deistic (God created the world and then left us to fend for ourselves), Agnostic (I often wonder if there is a God but I do not think that I will ever know for sure), and Atheistic (I do not believe that there is a God). These same five items were used in the present study to assess participants' beliefs about the nature of God; however, participants were asked to rate the extent they believed in each item (on a scale of 1 to 7) instead of choosing only one. This approach allowed for participants' varying beliefs in God, as their beliefs may not fit easily into only one of these categories.

A second characteristic of research on religion is the tendency for researchers to define this construct. Zinnbauer and his colleagues (1997) conducted one of the few studies of religiosity that did not provide a definition for this construct; rather, they allowed participants to provide personal definitions of religiosity. Given the likelihood that individuals may consider religiosity to include combinations of cognitions,

behaviors, and experiences, Zinnbauer and his colleagues were able to capture more diverse and personally meaningful definitions of religiosity. This approach minimized the likelihood that participants whose personal definitions of religiosity differed from that of the researchers would be under-represented in their level of religiosity. These definitions included many well-established concepts (e.g., organized religious practices), as well as some that had not been previously studied (e.g., concern for others aimed at attaining a better world). Participants' definitions of religiosity were coded along two dimensions: overall content (thirteen categories) and the nature of the sacred (four categories). The overall content categories ranged from "feeling or aimed at attaining a desirable inner affective state such as comfort, anxiety reduction, security, etc." to "hope" and "integrating one's value or beliefs with one's behavior in daily life, following God's will in one's life, demonstrating God's love to others, etc." The four categories for the nature of the sacred distinguished between definitions with (a) no reference to the sacred, (b) reference to traditional concepts of the sacred, (c) references to nontraditional concepts of the sacred, and (d) those with reference to both traditional and nontraditional concepts of the sacred. Both the overall and nature of the sacred content categories were coded using a single scheme created using participants' written definitions.

Spirituality

The study of spirituality is clouded by a lack of unity in how researchers use this term. Spilka (1993) has called spirituality a "fuzzy" concept that "embraces obscurity with passion" (p. 1), and researchers have recently called for the empirical clarification of this term (Spilka, 1993; Spilka & McIntosh, 1996; Zinnbauer et al., 1997). The diversity

of definitions of spirituality can be best viewed in the following examples: “that vast realm of human potential dealing with ultimate purposes, with higher entities, with God, with love, with compassion, with purpose” (Tart, 1983, p. 4); “a subjective experience of the sacred” (Vaughan, 1991, p. 105); and a concept that “may or may not include involvement in organized religion” (Miller & Martin, 1988; p. 14).

Individuals’ personal definitions of spirituality may be even more diverse than researchers have acknowledged, further complicating our understanding of what this concept entails. Zinnbauer and his colleagues (1997) highlighted the diversity with which individuals define spirituality. Participants in this study provided definitions of spirituality in the same manner in which they did for definitions of religiosity, and the same scheme was used to code these definitions. The definitions provided by their participants included personal growth, an ability to solve problems, personal beliefs in a God or higher power, and personal worship or prayer. This important study highlights the need to consider definitions of spirituality that extend beyond traditional beliefs and beyond the definitions that have been used by researchers. The importance of obtaining a measure of individuals’ personal definitions of spirituality is also highlighted by this study, as there was no single underlying theme for all the definitions in their study.

How are Religiosity and Spirituality Related?

Recently, researchers have begun to recognize that there is a difference between spirituality and religiosity (Zinnbauer et al., 1997). Spirituality has been regarded as an individual-based concept, set apart from traditional religious institutions, and is more closely based on personal meaningfulness than is religiosity (Spilka & McIntosh, 1996).

Religiosity is viewed as a more constrained concept, including traditional religious institutions' rules, rituals, and beliefs.

Zinnbauer et al. (1997) asked nine groups of participants (e.g., undergraduate students, mental health care workers, Roman Catholics, and rural Lutherans) to rate how spiritual and how religious they were. Each group indicated being significantly more spiritual than religious. In addition, these researchers asked participants to select one of four statements that best described their personal sense of religiosity and spirituality ("I am spiritual and religious", "I am spiritual but not religious", "I am religious but not spiritual", and "I am neither religious nor spiritual"). Analyses of this measure indicated that the majority of participants viewed themselves as both religious and spiritual. Taken together, these findings highlight the need to measure religiosity and spirituality in both a continuous and categorical way. More importantly, they suggest that individuals see the constructs of religiosity and spirituality as different, but not mutually exclusive.

Zinnbauer and his colleagues (1997) provide further evidence that although religiosity and spirituality are closely related concepts, individuals think of them in distinctly different ways. The definitions that individuals provided for religiosity and spirituality did overlap, as evidenced by the fact that Zinnbauer et al. could use one scheme to code both sets of definitions. However, the definitions were still different. For example, definitions of religiosity more frequently included references to traditional behaviors such as church attendance than did references to spirituality. Zinnbauer and his colleagues also found a significant difference between the percentage of individuals making nontraditional references to the sacred in their definitions of spirituality and their

definitions of religiosity. Ten percent of participants cited a nontraditional use of the sacred (e.g., nature or transcendent reality) when defining spirituality, while only 1% of the participants made such references when defining religiosity. Overall, the concepts of spirituality and religiosity appear to differ in the following ways: spirituality is less traditional and religion-bound, more flexible, more personal, and more frequently endorsed by people than religiosity.

Historically, researchers have viewed religiosity and spirituality as interchangeable constructs, with no clear differences between them. As evidenced by Zinnbauer et al. (1997), individuals now make distinctions between these constructs. The shift from considering religiosity and spirituality as the same concept to viewing them as two different, yet overlapping concepts can be seen in the following example. James (1902/1961) defined religiosity as “the feelings, acts, and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine” (p. 42; as cited in Zinnbauer et al., 1997, p. 550). Interestingly, this definition of religiosity would be considered by many in today’s society as a definition of spirituality. It contains no references to a traditional notion of God and has no specific references to religious activities, which potentially allows for a broad, religion-free interpretation. The definitions of religiosity used in more recent empirical studies include specific references to traditional religious activities, affiliations, and beliefs (e.g., prayer).

Researchers have identified varying levels of overlap in the way people define religiosity and spirituality, but the extent to which they are similar varies among different

groups of people (Zinnbauer et al., 1997). It has been difficult to determine how they are related because researchers have not always made clear-cut distinctions between them, and have sometimes imposed definitions on these constructs which were not empirically based. Zinnbauer and his colleagues provided evidence that (a) multiple measures of both concepts need to be considered, and (b) researchers need to assess participants' individual views of spirituality and religiosity and not assume that participants will share the researchers' own definitions of these constructs. Recognizing these two points, the present study made use of several measures of religiosity and spirituality in an attempt to address both of these issues. First, several of Zinnbauer et al.'s measures of religiosity and spirituality were employed (e.g., participants were asked to self rate their level of religiosity and spirituality, and provide information about their beliefs about the nature of God), and an additional measure of religiosity that Zinnbauer et al. did not consider, religious fundamentalism, was included in the present study. However, some of these measures were adapted to make allowances for nontraditional beliefs (e.g., about God, Goddess, Higher Power, or simply a universal human connection). For example, the Beliefs about God scale was altered such that the first reference to God read as "God (He or She)". In addition, religious fundamentalism was assessed differently than in previous research (e.g., Sethi & Seligman, 1993). Sethi and Seligman divided participants into three groupings based on their level of fundamentalism (Liberal, Moderate, and Conservative). In the present study, fundamentalism was measured on a continuum instead of categorically, as fundamentalism is a difficult concept to define and measure. Subtle differences between the level of fundamentalism of different religions are more

easily identified by using a continuous measure of fundamentalism than one that is categorical. Given the vast number of religions and differences between branches of those religions, a continuous measure of fundamentalism is better able to capture their diversity than one that is categorical. The use of a continuous measure of fundamentalism also moved the present research away from researcher-imposed definitions of fundamentalism to a more personally defined measure of fundamentalism. The participants in the present study were expected to have a greater understanding of the fundamentalism of their individual religious organizations than could be captured by researcher-imposed categories. In addition, participants not presently affiliated with a religious organization were included in the present study. Such individuals were not considered by Sethi and Seligman.

Second, the present study did not restrict participants to a single definition of religiosity and/or spirituality. Instead Zinnbauer et al.'s (1997) qualitative information formed the basis of a new measure designed by the author for use in the present study. Zinnbauer et al.'s content categories were derived from their participants' own definitions, and these categories were worded as questionnaire items in the present study. This new instrument was used to determine how individuals define both religiosity and spirituality when not confined to researcher-constructed, theory-based definitions. Both of these measures use the items from Zinnbauer et al.'s one content coding scheme for definitions of both religiosity and spirituality, and differ only in their reference to either religiosity or spirituality (e.g., "To what extent to you define religiosity as hope?" vs. "To what extent do you define spirituality as hope?").

Past Research Linking Optimism and Spirituality/Religiosity

To date, research has been limited to studying the relationships between religiosity and either dispositional or attributional optimism. No study has examined how religiosity relates to both types of optimism, and spirituality has not been considered in relation to either type of optimism. In addition, religiosity has been defined in various ways by researchers, ranging from frequency of church attendance to beliefs about God, or a sense of belonging to something greater than oneself (Zinnbauer et al., 1997).

Dember and Brooks (1989) found that dispositional optimism was significantly correlated with participants responding yes to the question “Do you belong to, or identify with, a religious group or organization?” and was modestly predictive of participants responding positively to the question “To what extent do you have a personal philosophy of life (religious or otherwise)?”.

Sethi and Seligman (1993) examined a different aspect of religiosity than Dember and Brooks (1989); they examined how religious fundamentalism was related to the degree of attributional optimism in the followers of those religions. As mentioned previously, they identified three groupings of religions along the dimension of fundamentalism-liberalism: fundamentalists (Orthodox Jews, Muslims, and Calvinists), moderates (Catholics, Conservative Jews, Lutherans, and Methodists), and liberals (Reform Jews and Unitarians). Sethi and Seligman found that increased fundamentalism was significantly related to higher levels of religious influence on daily life, religious involvement, and religious hope. Members of the fundamentalist faiths also showed a more optimistic attributional style than members of moderate faiths, who in turn showed

a more optimistic attributional style than members of liberal faiths. In a follow-up article fundamentalism was found to be associated with more hopefulness (the sum of the dimensions of pervasiveness and permanence for the positive events on the ASQ), less hopelessness (the sum of the dimensions of pervasiveness and permanence for the negative events on the ASQ), and less personal blame for negative events (Sethi & Seligman, 1994).

Noting that fundamental religious services contained more optimistic material than liberal services (with moderate religions lying in between), Sethi and Seligman (1993) suggested that greater amount of hopeful content in the fundamental services was internalized by the members of those religions. In contrast, members of moderate and liberal religions had less exposure to hopeful beliefs and less opportunity to internalize these attitudes. According to Sethi and Seligman, one's religion determines one's level of optimism, with optimism having no effect on religious and spiritual beliefs.

Schutte and Hosch (1996) expanded on the work of Sethi and Seligman (1993, 1994) by examining how cognitive religiosity (i.e., a belief in God) is related to dispositional optimism (as measured by the LOT) in three different cultural groups (Mexican-Americans, Anglo-Americans, and Mexican citizens). Cognitive religiosity predicted dispositional optimism for the sample of Mexican-Americans, but not for Anglo-Americans or Mexican citizens. Schutte and Hosch explained this finding by stating that the Mexican-American sample was more religious (i.e., scored higher on a measure of religious commitment) than both the Anglo-American sample and the Mexican citizens, possibly as a result of being an ethnic minority. The authors proposed

that immigrant groups who are considered members of an ethnic minority feel a greater need to maintain their religious commitment than those citizens living in their country of origin. Enhancing religious commitment is seen as one means of maintaining strong ties to their culture. The authors further suggest that higher religious commitment, and not just a belief in God, may be predictive of higher levels of dispositional optimism, while low religious commitment may not necessarily be predictive of a low optimism score. Schutte and Hosch state that “given a certain level of religiosity [religious commitment], one may predict a person’s score on other variables, such as optimism” (p. 240). They also argue that those who are committed to their religion are more likely to expect good things to happen to them: level of religious commitment predicts optimism. Their contradictory findings for the three cultural groups, however, suggest that something more than a belief in God or religious denomination may have influenced participants’ level of optimism. The findings suggest that level of religiosity is positively related to optimism, but Schutte and Hosch’s conflicting findings and their suggestion that the Mexican-Americans have greater religious commitment than the Mexican citizens because of ethnic-minority effects were not empirically tested.

Recently, researchers have examined the strength of one’s religious faith (i.e., the extent to which one believes in his/her religious teachings) and its relationship with dispositional optimism (as one measure of psychological health) (Plante, Yancey, Sherman, & Guertin, 2000). Religious faith was associated with greater dispositional optimism for two groups of university students (at a West Coast Catholic college and a Southern public state university in the United States), though not for a third group

(students at a Southern private Baptist college in the United States). In trying to explain these inconsistent results, Plante et al. state that measures of psychological health other than optimism (e.g., viewing life as a positive challenge) correlated with religious faith in all three participant groups. They suggest that religious faith is positively correlated with psychological health, even though some measures of psychological health (e.g., dispositional optimism) did not show relationships across all three groups. Plante et al. suggest that dispositional optimism is a weak measure of psychological health, thus explaining their inconsistent findings. This study examined strength of religious faith as the sole measure of religiosity, and did not consider additional religiosity or spirituality factors (e.g., religious affiliation) which may have explained the inconsistent results across groups. The authors note that only modest correlations were found for the first two samples, suggesting that more than strength of religious faith is related to optimism.

All past research which has examined the connection between religiosity and optimism has contained several methodological flaws. First, in each of the studies discussed above, the researchers have imposed their own definitions on the construct of religiosity: Dember and Brooks (1989) defined religiosity as affiliation with a religious or spiritual group; Sethi and Seligman (1993) defined religiosity as level of fundamentalism of one's religion; Schutte and Hosch (1996) defined religiosity as belief in God, and; Plante et al. (2000) defined religiosity as religious faith. Second, each of these studies employed limited measures of religiosity (e.g., only one measure of fundamentalism), and did not assess spirituality. Third, each study used only one measure of optimism, either attributional or dispositional, and none have examined how these two constructs may

differ in their relationships with religiosity and spirituality. In recognition of these three criticisms, the present study (a) allowed participants to define religiosity and spirituality in their own way, (b) employed multiple measures of both religiosity and spirituality, and (c) included measures of both attributional and dispositional optimism.

The present study focused on the religiosity, spirituality, and optimism of undergraduate students. This is a unique population for the study of religiosity and spirituality, in that these students are at a developmental level of self-definition and self-exploration (Sroufe, Cooper, & DeHart, 1992). They are likely to be questioning the religious and spiritual practices and beliefs of their families and formulating their own spiritual or religious identities. There is also cultural and ethnic diversity in undergraduate populations, which provided an opportunity to study individuals from various religious and spiritual backgrounds. This diversity was expected to highlight the complexity of religiosity and spirituality definitions, as well as their relationships with optimism.

Most researchers have thus far failed to consider personal conceptions of spirituality and religiosity, how spirituality and religiosity differ or overlap, and their potentially differing relationships with both types of optimism. Given research that suggests that these terms are often seen as different (Zinnbauer et al., 1997), research that allows participants to rate their level of spirituality and religiosity based on broad definitions of those terms is clearly needed. The present study was intended to replicate previous research. However, it was also intended to extend prior findings by examining previously unstudied concepts of religiosity and spirituality and how they relate to both

types of optimism.

Relevance of the Present Study

At a time when religiosity and spirituality are being offered as key components of emotional and physical well-being in both the research literature (Andersson, 1996) and in the popular media (e.g., television programs such as *The Oprah Winfrey Show*), a clearer understanding of the relationships between optimism, spirituality, and religiosity is essential for researchers and the general public. Optimism has been offered by many authors of self-help books as one method of attaining personal and spiritual growth: by perceiving the best outcome for oneself and being able to see the ‘silver lining’ in every situation, a greater spiritual connection with others may be attained (Pryor, 1995). Investigating the causal conclusion that optimism leads to a greater sense of spirituality or religiosity is beyond the scope of the present study, but a greater understanding of the relationship between these three concepts may inform future studies of causal pathways. An understanding of the relationships between these constructs also provides a basis for future research that examines how optimism, spirituality, and religiosity can enhance both psychological and physical health.

Summary and Hypotheses

Given our limited understanding of the relationships between optimism and both spirituality and religiosity, the present research does not make any assumptions regarding causal paths between these variables. Instead, the present study examined how both spirituality and religiosity are defined by an undergraduate population, and how these two constructs are related to dispositional and attributional optimism. The inclusion of

multiple measures of spirituality and religiosity was expected to help clarify the true relationship between these concepts and optimism.

The present study addressed the following questions:

1. Do participants consider themselves to be more religious or more spiritual?

Hypothesis 1: Based on the work by Zinnbauer et al. (1997), it was hypothesised that

participants would endorse a greater sense of spirituality than religiosity.

2. What are the dimensions that underlie undergraduate students' definitions of religiosity and spirituality?

Hypothesis 2: Based on the work of Zinnbauer et al. (1997), it was hypothesised that a

belief in a traditional God and practice of traditional religious activities would emerge as the main dimension in the factor structure of religiosity definitions. A feeling of connectedness to God (both traditional and nontraditional) and a belief in God was expected to emerge as the main dimension in the factor structure of spirituality definitions.

3. How do attributional and dispositional optimism relate to (a) the dimensions of religiosity and spirituality found in (2), and (b) a global sense of religiosity and spirituality (i.e., viewing one's self as religious or spiritual)?

Because this aspect of the present study was exploratory, no hypotheses were presented.

4. How is optimism related to (a) level of affiliation to a religious group or organization, and (b) level of fundamentalism of religious groups or organizations?

Hypothesis 4:

- a) Present level of affiliation to a religious organization (as measured on a Likert

scale) was expected to be positively correlated with both attributional and dispositional optimism.

b) Based on the work of Sethi and Seligman (1993), attributional optimism was expected to be positively related to level of fundamentalism of religion group as indicated by present religious affiliation;

c) As an extension of their findings, it was further hypothesised that dispositional optimism would be positively related to level of fundamentalism of religion group as indicated by present religious affiliation.

5. How is optimism related to beliefs about the nature of God (e.g., Pantheistic or Deistic)?

As an extension of the work of Schutte and Hosch (1996), exploratory analyses were conducted to determine which types of belief in God were positively related to both attributional and dispositional optimism. Because this aspect of the present study was exploratory, no hypotheses were presented.

METHOD

Pre-screening Session

Participants

The pre-screening measures were administered to all students enrolled in the Fall 1999 term Introductory Psychology class at the University of Windsor. A total of 1014 ($M = 20.41$ years, $SD = 5.71$, $n = 707$ women and 307 men) students completed these measures as part of a mass-testing session and received one bonus point toward their grade in this class for their participation. This session included additional measures utilized by other researchers for other projects. Participants who took part in the main testing session were selected from the members of this class.

Materials and Procedure

Participants were asked to complete a number of measures assessing the following constructs (see Table 1):

First, religious affiliation was assessed. Participants were asked to answer two questions relating to their religious affiliation (the religious organization they identify with, and how closely they identify with this religious organization; see Appendix A). These questions were asked with respect to both the past (childhood) and the present. While the first and third questions (past and present religious affiliation, respectively) were forced choice responses, the second and fourth questions (level of affiliation to past and present religious organization, respectively) were answered on a 7-point scale (from not at all to completely).

The aim of the present study was to assess a sample of participants from diverse

Table 1

Summary of Measures

Measure	Pre-screen	Main Testing
Religious affiliation	X	
Definition of spirituality and religiosity	X	
Attributional Style Questionnaire		X
Life Orientation Test		X
Self-rated degree of religiosity and spirituality		X
Distinction between religiosity and spirituality		X
Beliefs about God		X
Religious Fundamentalism		X
Demographic information		X

religious backgrounds rather than sampling randomly from undergraduate students. Thus, the present study sought equal representation from those who were not affiliated with an organized religion and those who were affiliated with religious organizations that are “less fundamental” and those that are “more fundamental”. Given the demographics of undergraduate populations, it was expected that a random sample of students would contain few who were affiliated with more fundamental religions; therefore, data regarding the religious organization with which they presently identify was used to select participants for the main testing session. A comprehensive list of religions was not used during the pre-screening due to limited response space. The religions that were included were more fundamental in nature, due to the expectation that fewer people would endorse these religions and would need to be pre-selected.

Second, a measure which assessed participants’ definitions of religiosity and spirituality was included in the pre-screening session (see Appendix B). This measure was developed using the coding categories established by Zinnbauer and his colleagues (1997). Zinnbauer and his colleagues created the coding categories based on the written definitions of religiosity and spirituality provided by their participants. In their study, one scheme, which contained 17 coding categories, was created to code both religiosity and spirituality definitions. For use in the present study the four categories assessing the nature of the sacred were collapsed into two items: One assessed the extent to which the participant defined religiosity and spirituality as including a traditional notion of God, while the second assessed the extent to which the participant defined religiosity and spirituality as including a nontraditional notion of God, yielding a total of 15

questionnaire items. In addition, the categories were reworded to read easily as questionnaire items. Each item was worded so that it assessed the extent to which the participant defined religiosity or spirituality as that item (e.g., “To what extent do you define religiosity as hope?”, “To what extent do you define spirituality as personal worship or practices?”). The 15 item measure used to assess religiosity definitions was also used to assess spirituality definitions, with the word “religiosity” replaced with “spirituality.” This measure provided a more extensive measure of participants’ definitions of religiosity and spirituality than past research. This measure was based on the written definitions of these terms from the Zinnbauer et al. study, providing empirically based questions.

Main Testing Session

Participants

For the present study, a minimum of 96 participants was needed to obtain the .80 level of power with a moderate effect size. To ensure adequate power 115 participants ($M = 19.57$ years, $SD = 2.11$, $n = 75$ women and 35 men) were recruited from the Introductory Psychology class. They received either a) one bonus credit for their participation toward their final grade in this class or b) a chance to win \$50. Students who had already received the maximum number of bonus points for their Psychology class were entered into the draw for \$50. All others received course credit. One student received the \$50 at the completion of data collection.

Using the pre-screening measure assessing present religious affiliation, 30 participants were randomly selected from those who identified their religion as Orthodox,

Mormon, Muslim, or Hindu, and an additional 85 who indicated that they were Protestant, Catholic, Jewish, atheist, did not indicate a religion, or were currently not affiliated with a religious organization.

Materials and Procedure

The participants were contacted individually by phone to arrange an appointment to complete the questionnaires in groups. They began the study by completing a consent form that informed them of the nature of the study and detailed the voluntary and confidential nature of their participation (see Appendix C). The participants were given a copy of this form for their records. Participants then completed the optimism measures (LOT and ASQ) and the religiosity/spirituality measures. The optimism and spirituality/religiosity measures were presented in a counter-balanced order (optimism or religiosity/spirituality measures first). The order of presentation for each participant was randomly assigned; however, the measures within the optimism and religious/spiritual sections appeared in a constant order. This limited any potential presentation order effects for the questionnaires.

Due to the need to match the participants' responses from the pre-screening session with those from the main testing session, participants were asked to include their student number on the test materials. Although anonymity of the information could not be assured, the participants were informed that all information collected would remain confidential and no identifying information would be included in analyses or presentation of results.

Optimism

Two measures of optimism, the Life Orientation Test (See Appendix D; LOT; Scheier & Carver, 1985) and the Attributional Style Questionnaire (See Appendix E; ASQ; Peterson et al., 1982) were used to measure optimism in the present study. These two measures are the most widely recognized methods of measuring optimism, and have previously been employed in studies of religiosity and optimism (e.g., Sethi & Seligman, 1993; Schutte & Hotte, 1996).

LOT. The LOT (Scheier & Carver, 1985) requires participants to answer four positively and four negatively phrased statements on a 5-point Likert-type scale with responses ranging from 0 (strongly disagree) to 4 (strongly agree). Examples of positively phrased items include “In uncertain times, I usually expect the best” and “I always look on the bright side of things,” while negatively phrased items include “If something can go wrong for me, it will” and “I hardly ever expect things to go my way.” This test is easily scored, with the negatively phrased items reversed before scoring and the answers to the 8 items (range 0-4 for each item) then summed, obtaining a total dispositional optimism score.

Scheier and Carver (1985) report internal consistency and test-retest reliability at acceptable levels. They showed that the reliability coefficient for the 8 items was .76 and the 13-week internal reliability coefficient was .72. Convergent validity was demonstrated by high correlations with scores of both physical and psychological health and low correlations with social desirability (Scheier & Carver, 1993). Although studies have found that two factors emerge, optimism and pessimism (Humber, Dember, Melton,

& Scheffé, 1992; Marshall & Lang, 1990; Scheier & Carver, 1985), researchers still treat this as a bipolar assessment tool and do not recognize the need for separate measures of optimism and pessimism (Chang, D’Zurilla, & Maydeu-Olivares, 1994).

ASQ. The items comprising the ASQ (Peterson et al., 1982) were 12 hypothetical good and bad life events (e.g., “You go out on a date and it goes badly”; “You suddenly become rich”). For each hypothetical event, participants were asked to imagine the event happening to them, and write down the cause of the event (e.g., “I had bad breath”; “I won the lottery”). For each item’s cause, participants were then asked to rate, on a 7-point Likert scale, the three attributional dimensions: permanence (e.g., Will this cause never again be present when on a date [temporary] or always be present [permanent]?), pervasiveness (e.g., “Does this cause affect only dating [specific] or all other areas of your life [pervasive]?”), and personalization (e.g., “Is this cause something about other people or circumstances [external] or is it something about you [internal]?”) (Seligman, 1990). Optimistic responses are those that are permanent, universal, and internal for good events, and temporary, specific, and external for bad events. The level of optimism was determined by calculating the composite mean for both positive events (CP) and for negative events (CN). These composite means are determined by averaging the total responses (on the 7-point Likert scale) to the three levels of attribution for the type of event, positive or negative. The CP and CN scores are considered the two full-scale ASQ scores and determine participants’ level of optimism. Higher CP scores and lower CN scores reflect greater attributional optimism. Both the CP and CN scores are used to measure optimism, as Peterson et al. found they were not significantly correlated.

The ASQ shows modest reliability for the three attributional dimensions, with reported Cronbach's alpha ranging from .44 to .69 (Cutrona, Russell, & Jones, 1984; Golin, Sweeney, & Schaffer, 1981; Peterson et al., 1982; Tennen & Herzberger, 1985). Internal consistency also appears high for the composite scores, with Peterson et al. (1982) reporting Cronbach's alphas for the composite scores (.75 for CP scores and .72 for CN scores) that are more stable than individual dimensions (e.g., personalization). Test-retest reliability is acceptable, with Peterson et al. (1982) reporting correlations of .58 to .69 over a 5-week period. Criterion validity also appears to be high (e.g., attributions on the ASQ correlate with attributions made in real-life situations) (Peterson et al., 1982).

Religiosity and Spirituality

The second component of the present study included the measures of religiosity and spirituality. In addition to the measures of optimism, four measures of religiosity and spirituality were administered during the main testing session.

Self-rated religiosity and spirituality. First, participants completed a measure of self-rated religiosity and spirituality (See Appendix F). In the present study participants were asked to answer, on a 5-point Likert scale (where 1 meant 'completely' and 5 meant 'not at all'), the following two questions from Zinnbauer et al. (1997): "To what degree do you consider yourself religious?"; and "To what degree do you consider yourself spiritual?"

Religiosity and spirituality descriptor. Second, the Religiosity and Spirituality Descriptor measure was completed (See Appendix G). Participants were asked to choose

one of four items that best described their own religiosity and spirituality. The items were as follows: “I am spiritual and religious;” “I am spiritual but not religious;” “I am religious but not spiritual;” and “I am neither religious nor spiritual” (Zinnbauer et al., 1997).

Beliefs about God. Third, participants completed the Beliefs About God measure. Participants were asked to indicate how closely they identified with five statements of beliefs about the nature of God on a 7-point Likert scale ranging from completely to not at all (where 1 meant ‘completely’ and 7 meant ‘not at all’). The present study employed an adapted version of the scale developed by Zinnbauer et al. (1997; see Appendix H). This measure was adapted such that the first reference to God was both masculine and feminine. Participants also identified how closely each statement matched their own beliefs about God, rather than selecting only one as they did in Zinnbauer et al.’s study.

Fundamentalism. Fourth, four questions were included which assessed the level of fundamentalism of the participants’ religious organization at the time of testing (see Appendix I). These questions were created by the author and assessed, on a 7-point Likert scale (where 1 meant ‘completely’ and 7 meant ‘not at all’), the extent to which the participants’ religion interprets their religious writings as literally or factually true, the extent to which the followers of their religion determine how to act according to religious writings, how timeless their religious writings are considered, and how fundamental they considered their present religion. The three item fundamentalism scale (the average of the first three items) attained a Cronbach’s alpha of .96, suggesting that the use of the average scale score in analyses was warranted in the present study.

Demographic Information

Finally, participants were asked to provide demographic information (see Appendix J). Participants were asked to answer questions about their present religious affiliation (e.g., Catholic, Protestant, New Age, Wicca; see Table 2) and how long they had been involved in this religion ($M = 17.24$ years, $SD = 5.91$). Although participants answered some of these questions during the pre-screening, a question was included where the participants could write in a religion that was not offered as an option during the pre-screening. Participants were also asked to identify their age and education level, as these variables have been identified as being positively correlated with self-rated spirituality (Roof, 1993; Zinnbauer et al., 1997). In addition, participants were asked to identify their cultural or ethnic origins (see Table 3), and living arrangements (e.g., at home, in residence; see Table 4) at the time of testing, and the amount of time they have lived away from home, if applicable ($M = 1.37$ years, $SD = 2.50$). The participants were also asked to provide demographic information about their parents, including religious affiliation (see Table 5), ethnicity (see Table 6), education (see Table 7), and income level (see Table 8). These questions were included because Zinnbauer et al. identified a significant relationship between parental variables and participant self-rated spirituality and religiosity, although these relationships were not found in the present study.

At the end of the testing session, participants were given a debriefing form (see Appendix K) to take with them and provided with an opportunity to ask any questions of the researcher. Follow up information was included on the debriefing form.

Table 2

Participant Present Religious Affiliation

Religion	<u>n</u>	<u>%</u>
No Religion	40	34.78
Roman Catholic	33	28.70
Muslim/Islam	20	17.48
Orthodox Christian	10	8.74
Anglican	3	2.61
Baptist	3	2.61
Protestant	2	1.74
United	2	1.74
Presbyterian	1	0.87
Native	1	0.87
Total	115	100

Table 3

Participant Ethnicity

Ethnicity	n	%
Caucasian/European	73	63.48
Middle Eastern	23	20.00
Asian	5	4.35
Indian	4	3.48
African/Canadian	4	3.48
Native	2	1.74
Caucasian/Native	1	0.87
Indian/African	1	0.87
South American	1	0.87
Asian/Caucasian	1	0.87

Table 4

Current Living Arrangements

Dwelling	<u>n</u>	<u>%</u>
At Home	63	54.78
University Residence	40	34.78
Apartment	7	6.09
With a Spouse	3	2.61
With a Relative Other than a Parent	2	1.74

Table 5

Parental Religion

Religion	Mother		Father	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
No Religion	13	11.30	14	12.17
Roman Catholic	42	36.52	43	37.39
Anglican	6	5.22	5	4.35
Protestant	4	3.48	4	3.48
Baptist	7	6.09	7	6.09
Orthodox Christian	12	10.43	12	10.43
Muslim/Islam	21	18.26	20	17.48
United	3	2.61	3	2.61
Presbyterian	5	4.35	6	5.22
Native	2	1.74	1	0.87
Total	115	100	115	100

Table 6

Parental Ethnicity

Ethnicity	Mother		Father	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Caucasian/European	74	64.35	74	64.35
Middle Eastern	23	20.00	23	20.00
Asian	5	4.35	6	5.22
Indian	5	4.35	4	3.48
African	4	3.48	5	4.35
Native	3	2.61	2	1.74
South American	1	0.87	1	0.87
Total	115	100	115	100

Table 7

Parental Education

Education Level	Mother		Father	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Some High School	16	13.91	21	18.26
High School Graduate	39	33.91	24	20.87
Some College/University	10	8.70	5	4.35
College/University Graduate	47	40.87	57	49.57
Graduate School Graduate	3	2.61	8	6.96
Total	115	100	115	100

Table 8

Parental Income Level

Yearly Salary	<u>n</u>	<u>%</u>
Less than \$10,000	1	0.87
\$10,000 - \$20,000	5	4.35
\$20,000 - \$35,000	13	11.30
\$35,000 - \$50,000	41	35.65
\$50,000 - \$65,000	27	23.48
\$65,000 - \$80,000	4	3.48
\$80,000 - \$95,000	7	6.09
over \$95,000	10	8.70
Do Not Know	7	6.09
Total	115	100

RESULTS

Preliminary Analyses

First, ANOVAs were performed examining differences between male and female participants' scores on the optimism, religiosity, and spirituality measures. Only one of these analyses showed a significant gender effect: male participants ($M = 3.57$, $SD = 1.38$) rated themselves as significantly more spiritual than female participants ($M = 3.04$, $SD = 1.28$), $t(1) = 3.93$, $p = .05$. As this analysis just attained the minimum significance level and no other differences were found between the scores of males and females, subsequent analyses were performed on the combined male and female data.

Second, for ease of interpretation, three measures were recoded. The Likert ratings of degree of spirituality and religiosity were reverse-coded such that a score of 1 meant 'not at all' and a score of 5 meant 'completely'. Scores on the five Beliefs About God questions and the four Fundamentalism questions were also recoded such that a score of 1 meant 'not at all' and a score of 7 meant 'completely'.

Third, the overall self-rated level of fundamentalism for each participant was calculated by averaging only the first three of the four fundamentalism items (the extent to which participants' religion interprets their religious writings as literally or factually true; the extent to which followers of their religion determine how to act according to religious writings; and the extent to which their religious writings are considered timeless). Twelve participants told the researcher that the fourth fundamentalism question (how fundamental they considered their present religion) was ambiguous, and they were not clear about how to respond to it. As such, the fourth fundamentalism item was

removed from the calculation of the overall fundamentalism score.

Fourth, the internal consistency of the ASQ attributional dimensions (permanence, pervasiveness, and personalization; 6 items each) and subscales (CP and CN; 18 items each) were calculated using Cronbach's alpha. Permanence for positive events (.33) showed much lower internal consistency than permanence for negative events (.64). Pervasiveness for positive events (.57) and pervasiveness for negative events (.58) both had adequate levels of internal consistency. The personalization dimension for positive events (.48) and the personalization dimension for negative events (.41) both demonstrated low levels of internal consistency. The low to adequate levels of internal consistency across the attributional dimensions suggest that use of the individual attributional dimensions was not warranted in the present study. Cronbach's alpha was also used to determine the internal consistency of both ASQ composite scores. The positive events composite (CP) attained an alpha level of .69, while the negative event composite (CN) attained an alpha level of .75, both of which are considered adequate. These levels of internal consistency for the CP and CN scores are comparable to those found by Peterson et al. (1982) and suggest that these scales demonstrated sufficient reliability for use in the present study. Additionally, correlations between ASQ CP and CN composites suggested these composites were not correlated, $r = .14$, ns.

Finally, the LOT was not significantly correlated with the ASQ negative event scores (CN), $r = -.10$, ns. LOT and the ASQ positive event scores (CP) were significantly correlated, $r = .26$, $p < .01$. The size of this correlation is similar to that found by Hjelle and his colleagues (1996). Although significant, the small size of the present correlation

between the LOT and the ASQ CP scores suggests that they are not measuring the same construct. As such, the LOT and the ASQ were examined separately in the present study.

Main Analyses

Question 1 (Do Participants Consider Themselves to be More Religious or More Spiritual?)

In order to evaluate the first hypothesis (that participants would endorse a greater sense of spirituality than religiosity), a paired t-test was performed on the single item self ratings of spirituality and religiosity (On a scale of 1 to 5: How religious are you?; How spiritual are you?). As predicted, participants rated themselves as significantly more spiritual ($M = 3.23$, $SD = 1.33$) than religious ($M = 2.53$, $SD = 1.29$), $t(114) = 5.62$, $p < .01$. However, self-reported religiosity and spirituality were found to be significantly correlated, $r = .47$, $p < .01$.

Question 2A (What are the Dimensions that Underlie Undergraduate Students'

Definitions of Religiosity and Spirituality?)

In order to evaluate the second hypothesis (that a belief in a traditional God and practice of traditional religious activities would emerge as the main dimension in the factor structure of religiosity definitions, and that a feeling of connectedness to God and a belief in God would emerge as the main dimension in the factor structure of spirituality definitions), the 15-item religiosity and spirituality definition measures were subjected to separate principal components analyses (PCA). PCA is used to determine whether, within a large set of variables, there are coherent subsets of variables (components) that are relatively independent of each other (Tabachnick & Fidell, 1996). Tabachnick and Fidell

state that, in PCA “variables that are correlated with one another but largely independent of other subsets of variables are combined into factors” (p. 635). PCA was selected over other data reduction techniques because it is thought to produce the best empirical summary of the data set for exploratory research (Tabachnick & Fidell). A description of statistical considerations that were examined prior to the acceptance of PCA results for use in the present study follows, and the results of the PCAs are then described.

Number of Components

For each PCA, eigenvalues and the scree test provided information regarding the number of components to retain. The Kaiser criterion maintains that only those components with eigenvalues greater than one should be retained (Tabachnick & Fidell, 1996).

Factorability of Matrices

The correlation matrix for each PCA was inspected to assess its factorability. Tabachnick and Fidell (1996) state that “a matrix that is factorable should include several sizeable correlations” (p. 641). They suggest that if no correlations exceed .30, then the use of PCA is questionable, and that if numerous pairs of correlations between variables are significant, the matrix is likely to be factorable. All PCAs revealed numerous correlations in excess of .30 in the present study.

Other tests of factorability, such as the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett’s Test of Sphericity were also used to assess factorability of the matrices (Tabachnick & Fidell, 1996). Tabachnick and Fidell state that KMO values of .60 and above are required for good PCAs. KMO values for the PCAs in the

present study ranged between .87 and .91, suggesting that the use of PCA was valid. In addition, Bartlett's tests for all PCAs in the present study were found to be significant at the $p < .001$ level. All of these findings suggest that the assumption of factorability was met for each of the PCAs run in the present study. PCA results also indicated that neither multicollinearity nor singularity appeared to be a threat in either of the data sets: None of the eigenvalues came dangerously close to zero, and none of the squared multiple correlations (SMC) approached or were equal to one (Tabachnick & Fidell).

Rotation

Tabachnick and Fidell (1996) report that "rotation is ordinarily used after extraction to maximize high correlations and minimize low ones" (p. 647). Orthogonal rotation was chosen because factor scores were to be used as variables in subsequent analyses. According to Tabachnick and Fidell, a need for orthogonal factors in other analyses constitutes a compelling reason for orthogonal rather than oblique rotation, even if it is anticipated that underlying dimensions may be correlated. The decision to employ varimax rotation was based on its widespread acceptance as the most frequently used orthogonal rotation procedure (Tabachnick & Fidell).

Religiosity and Spirituality PCA Reliability

The overall data set was randomly divided in half and identical PCAs were run on each of these two subsamples for both the definitions of religiosity and spirituality (yielding two PCAs for religiosity and two for spirituality). This split-half procedure was carried out to determine the reliability of the religiosity and spirituality PCAs. The results of the two religiosity PCAs proved to be identical in terms of the number and content of

components, as did the two spirituality PCAs; thus, the data were recombined and results of PCAs based on the entire data set are discussed below.

Religiosity PCA

The rotated three component solution accounted for 64% of the variance, and eigenvalues ranged from 1.23 to 6.54. The third component contained only two items (“negative means and ends to personal gain” and “belief in a Higher Power other than a traditional God”). Tabachnick and Fidell (1996) suggest that a component with only two items may be retained if the two items are highly correlated ($r > .70$). The two items loading on the third component were only modestly correlated ($r = .24$) and an examination of the scree plot did not support retention of the third component. As such, the third component was not analysed further.

The remaining 13 items loaded on at least one of the two components and were retained for interpretation. Simplicity of structure was assessed by examining the rotated component loading matrix. Five of the 13 items were complex (i.e., they loaded above the .32 cutoff on both components). Streiner (1986; as cited in Tabachnick & Fidell, 1996) states that items that load equally (loadings within .05 of each other) on two components should be retained on both factors. However, the five complex items all differed by more than .05, and were therefore assigned to the component on which they had the higher loading (see Appendix L for a listing of component items).

Component 1. The eight items (attaining a desirable inner affective state, meaning, personal growth, concern for others, hope, problem solving ability, feeling of connection with God, and,ersonal beliefs in God) loading on the first component

accounted for 34% of the total variance. These items pertain to beliefs and desires which are internal to the individual, and do not necessitate a connection to a religious group or organization, such as attending religious services. This component does not contain any reference to belief in a particular type of God or deity, such as a traditional notion of God. As such, this component was labeled 'Personal Religiosity'.

Component 2. The five items (personal worship, organizational practices, commitment to organizational beliefs, integrating beliefs with daily behavior, and, a traditional notion of God) loading on the second component accounted for 21% of the total variance. These items pertain to organized religious practices and daily behavior, as well as a traditional notion of God. As such, this component was labeled 'Organized Religiosity'.

Spirituality PCA

The rotated three component solution accounted for 64% of the variance, and the component eigenvalues ranged between 1.15 and 5.99. A single item (negative means or ends to personal gain) loaded on the third component. Tabachnick and Fidell (1996) state that a component with only one item is not stable, and therefore should not be retained, and an examination of the scree plot did not support retention of the third component. As such, the third component was not analysed further.

Fourteen of the 15 items loaded onto one of the two components and were retained for interpretation. Simplicity of structure was assessed by examining the rotated component loading matrix. Four of the 14 items were complex, but again differed by more than .05, and were therefore assigned to the component on which they had the

higher loading (see Appendix M for component items).

Component 1. The seven items (attaining a desirable inner affective state, meaning, personal growth, concern for others, hope, problem solving ability, and belief in a Higher Power other than a traditional God) loading on the first component accounted for 29% of the total variance. These items pertain to personal inner beliefs, with specific reference to a nontraditional notion of God, and no reference to practices honoring that God or a religion. As such, this component was labeled 'Personal Spirituality'.

Component 2. The seven items (feeling of connection with God, personal beliefs in God, personal worship, organizational practices, commitment to organizational beliefs, integrating beliefs with daily behavior, and, a traditional notion of God) loading on the second component accounted for 27% of the total variance. These items pertain to feeling a connection with a traditional God and practicing that by involvement in organized religion. As such, this component was labeled 'Organized Spirituality'.

Question 3 (How do Attributional and Dispositional Optimism Relate to (a) the Dimensions of Religiosity and Spirituality, and (b) a Global Sense of Religiosity and Spirituality?)

As no hypotheses were tested for this question, these analyses were exploratory. LOT and ASQ CP and CN scores were correlated with scores on the religiosity and spirituality components derived from the PCA. LOT scores correlated with the Personal Spirituality component, $r = .21$, $p < .05$, but not the Personal Religiosity, Organized Religiosity, or Organized Spirituality components (all $ps > .10$). The ASQ CP and CN scores did not correlate significantly with any of the religiosity or spirituality component

scores.

Secondly, separate one-way ANOVAs were carried out using LOT and ASQ CP and CN optimism scores as dependent measures and choice of religiosity/spirituality descriptor (I am religious and spiritual; I am religious but not spiritual; I am spiritual but not religious, and; I am neither religious nor spiritual) as the independent measures. As each of the participants chose only one of the religiosity/spirituality descriptors, comparisons between the mean optimism scores of the four groups were possible. LOT scores were found to differ significantly by religiosity/spirituality descriptor, $F(3, 111) = 2.81, p < .05$ (see Table 9). Bonferonni post-hoc comparisons showed that the mean LOT score for those identifying as Spiritual and Religious ($M = 21.41, SD = 5.06$) was significantly greater than the mean LOT score for those identifying as Neither Spiritual nor Religious ($M = 18.14, SD = 4.31$) (see Table 9). ASQ CP score did not differ significantly for any of the four religiosity/spirituality descriptors, $F(3, 107) = 1.64, ns$, nor did ASQ CN score, $F(3, 107) = .38, ns$.

Thirdly, self-rated religiosity and spirituality (On a scale of 1 to 5: How religious are you?; How Spiritual are you?) were examined for significant relationships with the LOT and ASQ. Degree of religiosity was found to be significantly correlated with the LOT, $r = .22, p < .05$, as was degree of spirituality, $r = .30, p < .01$. Neither degree of religiosity nor degree of spirituality were significantly correlated with ASQ CP nor CN scores (all $ps > .10$).

Table 9

Mean LOT Score by Religiosity/Spirituality Descriptor

<u>Descriptor</u>	<u>n</u>	<u>LOT</u>	
		<u>M</u>	<u>SD</u>
Spiritual and religious	54	21.41 ^a	5.01
Spiritual but not religious	33	19.91 ^{ab}	4.84
Religious but not spiritual	6	18.50 ^{ab}	2.59
Neither spiritual nor religious	22	18.14 ^b	4.31
Total	115	20.20 ^{ab}	4.89

Note. Higher LOT (Life Orientation Test; Scheier & Carver, 1985) score reflects greater optimism. Means with the same superscript do not differ significantly ($p < .05$) from one another.

Question 4 How is Optimism Related to (a) Level of Affiliation to a Religious Group or Organization, and (b) Level of Fundamentalism of Religious Groups or Organizations?

Hypothesis 4A (that present level of affiliation to a religious organization would be positively correlated with both attributional and dispositional optimism), was tested by correlating LOT and ASQ CP and CN scores with self-rated affiliation to one's present religious organization. The correlation between the LOT and present level of religious affiliation approached significance, $r = .18$, $p = .06$. However, contrary to expectations, present level of religion affiliation was not correlated with ASQ CP score, $r = .17$, ns, nor ASQ CN score, $r = .08$, ns.

Hypotheses 4B and C (that attributional and dispositional optimism would be positively related to level of fundamentalism of present religious group) were tested by correlating self-rated level of fundamentalism with ASQ and LOT scores. Contrary to expectations, religious fundamentalism was not significantly correlated with ASQ CP scores, $r = .16$, ns, ASQ CN scores, $p = -.05$, ns, nor LOT scores, $r = .12$, ns. These nonsignificant findings held even after controlling for self-reported level of affiliation to the present religious group.

Question 5 (How is Optimism Related to Beliefs About the Nature of God?)

As no hypotheses were tested for this question, these analyses were exploratory. Question 5 was examined by correlating ratings on the five Beliefs About God items (Pantheistic, Theistic, Deistic, Agnostic, Atheistic) with both the LOT and ASQ scores.

The LOT was negatively correlated with a Deistic belief in God, $r = -.28$, $p < .01$, and Atheism, $r = -.19$, $p < .05$. Correlations between the LOT and both a Theistic belief in

God, $r = .18$, $p = .06$, and Agnosticism, $r = -.16$, $p = .10$ showed trends to significance. A Pantheistic belief in God was not correlated with LOT score, $r = .12$, ns (see Table 10).

ASQ CP scores were negatively correlated with Agnosticism, $r = -.22$, $p < .05$, but Theistic, Pantheistic, Deistic, and Atheistic beliefs in God were not correlated with ASQ CP scores (all p 's $> .10$). None of the Belief in God items were correlated with ASQ CN scores.

Table 10

Correlations Between Beliefs About God Items and Optimism

	CP	CN	Theistic	Pantheistic	Deistic	Agnostic	Atheistic
LOT	.26**	-.10	.18	.12	-.28**	-.16	-.19*
ASQ CP	--	.14	.18	-.02	-.02	-.22*	.17
ASQ CN	--	--	.00	.05	.06	.09	-.07

Note. LOT = Life Orientation Questionnaire (Scheier & Carver, 1985); ASQ =

Attributional Style Questionnaire (Peterson et al., 1982); CP = ASQ Positive Event

Composite score; CN = ASQ Negative Event Composite score.

* Correlation is significant at the 0.05 level (2 tailed)

** Correlation is significant at the 0.01 level (2 tailed)

DISCUSSION

The present study examined how undergraduate students define religiosity and spirituality, and the relationships these constructs have with both attributional and dispositional optimism. Five main research questions were examined in the present study: (1) Do participants consider themselves to be more religious or more spiritual?; (2) What are the dimensions that underlie undergraduate students' definitions of religiosity and spirituality?; (3) How do attributional and dispositional optimism relate to (a) the dimensions of religiosity and spirituality found in (2), and (b) a global sense of religiosity and spirituality (i.e., viewing one's self as religious or spiritual)?; (4) How is optimism related to (a) level of affiliation to a religious group or organization, and (b) level of fundamentalism of religious groups or organizations?; and (5) How is optimism related to beliefs about the nature of God? The implications of the findings of the present study in the areas of religiosity and spirituality, optimism, and the relationships between these constructs, are presented below. This will include a discussion of how the findings of the present study integrate with previous literature in this area, followed by an examination of the limitations of the present study and suggestions for future research.

Religiosity and Spirituality

Consistent with the research of Zinnbauer et al. (1997), participants in the present study considered themselves to be more spiritual than religious. This finding coupled with the fact that they were only moderately correlated, suggests that individuals distinguish these constructs from each other. However, degree of religiosity and degree of spirituality were correlated in the present study. These two findings suggest that, although

individuals differentiate between religiosity and spirituality, they do not see these constructs as mutually exclusive. Further evidence that religiosity and spirituality are not mutually exclusive constructs was seen in the way participants categorized their sense of religiosity and spirituality. Almost half (47%) of participants stated that they were religious and spiritual; 29% that they were spiritual but not religious; 19% they were neither religious nor spiritual; and only 5% stated they were religious but not spiritual.

Additionally, results of the PCA confirm that there were similarities in participants' views of these two constructs. Unexpectedly, the main component that emerged in participants' definitions of religiosity did not include references to organized religious activities or commitment to organized religion. Instead, individual beliefs and inner growth processes were shown to be the most salient characteristics in the participants' definitions of both religiosity and spirituality. The second component for both religiosity and spirituality centered on organized religious behaviors and beliefs, and commitment to organized religion.

Spilka and McIntosh (1996) contend that spirituality is an individual-based concept, apart from traditional religious institutions, and is more closely based on personal meaningfulness than is religiosity. Religiosity, however, is viewed as a more constrained concept, a concept that includes the rules, rituals and beliefs of traditional religious institutions. The results of the examination of definitions of religiosity and spirituality in the present study suggest that neither religiosity nor spirituality are primarily defined in terms of organized religious practices and beliefs, refuting Spilka and McIntosh's contention; rather, desire for a meaningful inner state is viewed as more

central to both religiosity and spirituality than is organized religion. Whether this inner state includes belief in a deity other than a “traditional” God was one clear distinction between religiosity and spirituality. Belief in a traditional God was connected to organized religious beliefs and behaviors for both the Organized Religiosity and the Organized Spirituality components, while belief in a nontraditional God was seen only in the Personal Spirituality component (this item was not retained on either of the religiosity components). An additional difference between definitions of religiosity and spirituality that emerged from the results of the PCA was that, while the Personal Religiosity and Personal Spirituality components both contained items related to inner states such as hope, the Personal Religiosity component also included a belief in, and feeling of connection with, a Higher Power that was not found in the Personal Spirituality component. This sense of connection with, and belief in, a Higher Power emerged as connected to more traditional religious affiliations and practices in the Organized Spirituality component. Belief in a Higher Power appears to be strongly connected with an individual’s sense of both religiosity and spirituality, although in different ways, while belief in a Higher Power other than God is seen as a spiritual, not religious, concept.

Optimism

Consistent with past literature (Hjelle et al., 1996), attributional and dispositional optimism were only modestly related in the present study, suggesting that they do not measure the same construct. This conclusion is strengthened by the results suggesting significant relationships between dispositional optimism and both religiosity and spirituality, and the absence of such relationships with attributional optimism. As

discussed previously, dispositional optimism is a more global measure of optimism than is attributional optimism; it is defined as a globalized tendency to believe that one will experience good rather than bad outcomes in life (e.g., “I believe that every cloud has a silver lining”). Attributional optimism is a situation-specific measure of optimism; it is the pattern of perceiving events in one’s life which leads people to “believe defeat is not their fault” (Seligman, 1990, p. 5) while success is their own doing.

Relations Between Optimism and Spirituality and Religiosity

The results of the present study suggest that religiosity and spirituality may be more predictive of a global positive outlook on life than how individuals attribute the causes of events in their lives. Three major findings emerged with respect to the relationships between optimism, religiosity, and spirituality. The first major finding of the present study is that attributional optimism was not related to religiosity and spirituality. A second major finding of the present study is that dispositional optimism is strongly related to multiple measures of religiosity and spirituality. A third major finding of the present study is the need to assess both religiosity and spirituality multi-dimensionally, as varying results emerged when different measures of these constructs were examined for their relationships with dispositional optimism. A discussion of these findings follows.

Dispositional optimism correlated with both degree of religiosity and degree of spirituality. It is important to note that degree of religiosity was correlated with degree of spirituality in the present study. The finding that degree of religiosity and degree of spirituality both correlated with dispositional optimism, however, provides evidence that both of these constructs, rather than only one, contribute to greater dispositional

optimism.

Second, dispositional optimism was greater for those who self-identified as 'Spiritual and Religious' than for those who self-identified as 'Neither Spiritual nor Religious.' None of the other comparisons between the dispositional optimism scores of the four religiosity and spirituality descriptors was significant. It is important to note, however, that only six participants indicated that they were 'Religious and not Spiritual.' This small sample size may have contributed to the finding that there was no difference in dispositional optimism between this group and any of the other three religiosity and spirituality descriptor groups. Specifically, the dispositional optimism scores of those who were 'Religious but not Spiritual' were no greater than the scores of those who were 'Neither Spiritual nor Religious.' Interestingly, individuals who identified as 'Spiritual but not Religious' did not have a greater sense of dispositional optimism than those who were 'Neither Religious nor Spiritual.' This finding suggests that the combination of a sense of religiosity and a sense of spirituality contributes to greater dispositional optimism.

Third, in the present study, dispositional optimism was negatively correlated with both a Deistic belief in God and Atheism. Zinnbauer et al. (1997) define a Deistic God as one who has created the world and then left its inhabitants to fend for themselves, while Atheism is defined as the belief that God does not exist. Both of these beliefs contend that God is not involved in one's daily life. The negative correlations between such beliefs and optimism suggest that feeling God is somehow involved in one's life plays an important role in explaining the present correlation between dispositional optimism and

these two beliefs in God. However, Theistic and Pantheistic beliefs about God (both of which contend that God is involved in one's daily life) were not correlated with dispositional optimism in the present study. Taken together, these findings suggest that believing that God is involved in one's daily life does not contribute to one's sense of optimism about the future, while believing that God is not involved in one's daily life does contribute to one's sense of pessimism about the future.

Attributional optimism (as measured by responses to positive events) was negatively correlated with Agnosticism (i.e., I often wonder if there is a God but I do not think that I will ever know for sure) in the present study. It is possible that those who are more undecided about the nature of God are less likely to view positive events in their lives in an optimistic way. This questioning of the existence of God may be one example of a pessimistic attributional style. It should be noted, however, that this finding was the sole significant relationship between attributional optimism and beliefs in God (the five Nature of God items were correlated with both CP and CN scores, creating 10 possible comparisons). In addition, attributional optimism measured by responses to negative events was not significantly correlated with Agnosticism. Taken together, these findings suggest that this relationship may be due to chance.

Fourth, although correlations emerged between dispositional optimism and specific measures of religiosity and spirituality, only the Personal Spirituality component correlated significantly with dispositional optimism. This correlation may be due to two factors: (a) participants endorsed a greater sense of spirituality in their lives than religiosity, and (b) of all four components, the Personal Spirituality component was the

only one that made reference to belief in a nontraditional God, as this item loaded on the third religiosity component and was not retained. Individual's ideas about a traditional God (e.g., that God is vengeful) may be less compatible with a positive outlook on life than ideas about a nontraditional God. However, this contention was not tested in the present study, as none of the five beliefs about God items contained references to a God that was vengeful. Given that the Personal Religiosity component did not correlate significantly with dispositional optimism, the combination of a greater sense of spirituality and the Personal Spirituality component may explain the correlation between the Personal Spirituality component and dispositional optimism. This finding may also be due to chance given that, of the eight correlations between religiosity and spirituality components and measures of optimism, only one was significant.

Fifth, attributional and dispositional optimism were not significantly correlated with self-rated fundamentalism in the present study. In past research, the only aspect of religiosity that has been examined for relationships with attributional optimism is fundamentalism (Sethi & Seligman, 1993). Sethi and Seligman suggested that a link between religiosity and attributional optimism was based on religious writings. Specifically, they explained the relationship between attributional optimism and religious fundamentalism found in their study by proposing that the writings of more fundamental religions contain more hopeful content than do those of less fundamental religions. Since participants in the present study did not primarily define religiosity and spirituality in terms of adherence to organized religious writings and teachings, the hopeful content of religious writings and teachings may have had little influence over how those participants

thought about the causes of events in their lives. In addition, Sethi and Seligman's participants all attended religious services frequently. The level of present religion affiliation of the participants in the present study ranged from very involved to almost no current involvement. Given this variation in level of religious affiliation, the present study examined the relationships between fundamentalism and both dispositional and attributional optimism, controlling for level of present religious affiliation, but no significant correlation emerged.

One possible explanation for the lack of relationship between fundamentalism and attributional optimism in the present study is that the participants were from a more varied sample of religions than were those in Sethi and Seligman's (1993) research. In addition, Sethi and Seligman employed a categorical measure of fundamentalism, while the present study used a continuous measure of fundamentalism. Three distinct groups of participants (from Liberal, Moderate, and Conservative religions) were examined in their research. Fundamentalism is a difficult concept to define and measure, yet Sethi and Seligman chose to make clear distinctions between religions. However, classifying religions with respect to fundamentalism may result in artificial distinctions. A certain religion may be classified as fundamental, but branches within that religion may vary vastly in their level of fundamentalism. Certain religions are consistent with regard to fundamentalism across all geographic areas, but others vary dramatically from one region to another. For example, Southern American Baptists should rate higher on a measure of fundamentalism than some of the liberal Baptist churches in other areas of the United States and Canada. Without knowledge of its beliefs and teachings, a specific Baptist

church cannot be correctly classified as 'Conservative' or 'Liberal' with regard to religious fundamentalism. Some religions also vary in their level of fundamentalism from one church to another in the same regional area. It is probable that the measure of fundamentalism used in the present study was more sensitive to slight differences in the level of fundamentalism of the participants' religions than was the method employed by Sethi and Seligman.

Given that dispositional optimism, which was found to correlate significantly with other measures of religiosity and spirituality in the present study, did not show a significant relationship with fundamentalism, it is likely that fundamentalism alone is not a strong enough measure of religiosity and spirituality and, as such, does not relate to optimism as Sethi and Seligman (1993) have proposed. Fundamentalism may also be an aspect of religiosity and spirituality that has no real relation to optimism.

Fundamentalism is likely a stronger measure of religiosity than it is of spirituality, and the findings of the present study indicate that a combination of both religiosity and spirituality relate to dispositional optimism. The present finding that fundamentalism is not related to optimism suggests that measuring only the fundamentalism component of religiosity, without a consideration of the other factors that make up participants' definitions of religiosity, would fail to reveal the complexity of the relationships between religiosity, spirituality, and optimism.

Limitations of the Present Study and Future Research Implications

Although several significant relationships between spirituality, religiosity, and optimism were found in the present study, it is important to acknowledge some of its

methodological limitations. First, selection of participants from pre-screening measures was based on reported current religion. The present study sought to include roughly equal numbers of participants from fundamental religions, liberal religions, and those not presently involved in an organized religion. This selection process led to an under- and over-representation of individuals from certain religions compared to the normal population of first year Psychology Students. For example, while 9% of the participants in the pre-screening sample identified their present religion as within the “Fundamental” categories, 26% of the main testing participants identified their present religion as within these category; similarly, 53% of the pre-screening participants identified their present religion within the “Liberal” categories, while only 39% of the main testing sample fell in this group. While this sampling procedure allowed for the examination of the research questions under study with a diverse population, the participants who took part in the main testing session were not a random sample.

Second, participants’ attitudes toward religiosity, spirituality, and optimism were measured at two different times (the pre-screening of participants took place approximately six months prior to the main testing session). The mass testing session measured religious affiliation and definitions of spirituality and religiosity. The main testing session assessed the two measures of optimism, self-rated religiosity and spirituality, the distinction between religiosity and spirituality, beliefs about God, and demographic information (see Table 1). In the present study, analyses were run using data from both testing sessions. Although unlikely, it is possible that participants’ attitudes towards religiosity, spirituality, and optimism changed over the six-month interval.

Participants were not asked during the main testing session if they had experienced any significant changes in their attitudes or practices over the previous six months, information which may have altered the results of the present study. For a clearer picture of how these constructs are related, future research should include measures of participants' definitions of religiosity and spirituality and measures of optimism in the same testing session. In addition, the retesting of these constructs over time with the same participants may show how undergraduates' definitions of religiosity and spirituality develop and change, and how these changes affect relationships with both measures of optimism.

A third limitation of the present study is the lack of inclusion of control measures. For example, depression has been found to show a significant negative correlation with both dispositional (e.g., Vickers & Vogeltanz, 2000) and attributional (e.g., Michelson, Bellanti, Testa, & Marchione, 1997) optimism, as well as religiosity (e.g., Jensen, Jensen, & Wiederhold, 1993), but a measure of depression was not included in the present study. Controlling for depression may have revealed significant relationships that were not found in the present study. Future research must include measures of constructs that have been shown to significantly relate to religiosity, spirituality, and optimism.

While the present study contains several methodological limitations, significant relationships between religiosity, spirituality, and dispositional optimism emerged that can inform future research. The use of multidimensional measures of religiosity and spirituality appear warranted in future research, and an examination of the religiosity and spirituality components could provide a more diverse measure of religiosity and

spirituality. Given that the present study found results that both supported and contradicted past research, future research is warranted in this area.

Conclusions

Religiosity and spirituality are complex and varied constructs, and merely measuring one facet of them (e.g., fundamentalism) does not provide a clear picture of their diversity. When examining relationships between religiosity, spirituality, and other constructs such as optimism it is important to consider their heterogeneous nature. The present study sought to further clarify the relationships between religiosity, spirituality, and optimism, and has shown that dispositional optimism may be a more important correlate of religiosity and spirituality than attributional optimism. The determination of whether this optimistic outlook is caused by the presence of religiosity and spirituality in an individual's life, or vice versa, is beyond the scope of the current study, but is a question which demands further scientific attention.

APPENDIX A
Past and Present Religious Affiliation Pre-screening Items

1. Which religious group or organization did you most closely identify with while you were growing up?
 - 0) Protestant
 - 1) Catholic
 - 2) Jewish
 - 3) Orthodox
 - 4) Mormon
 - 5) Muslim
 - 6) Hinduism
 - 7) Atheist/No religion
 - 8) Don't know/won't answer
2. How closely did you identify with this religious group or organization while you were growing up?
 - 0) Not at all
 - 1) Very little
 - 2) Somewhat
 - 3) Partially
 - 4) More than less
 - 5) A great deal
 - 6) Completely
3. Which religious group or organization do you most closely identify with at the present time?
 - 0) Protestant
 - 1) Catholic
 - 2) Jewish
 - 3) Orthodox
 - 4) Mormon
 - 5) Muslim
 - 6) Hinduism
 - 7) Atheist/No religion
 - 8) Don't know/won't answer
4. How closely do you identify with your current religious group or organization?
 - 0) Not at all
 - 1) Very little
 - 2) Somewhat
 - 3) Partially
 - 4) More than less
 - 5) A great deal
 - 6) Completely

APPENDIX B

Pre-screening Measure of the Definition of Religiosity and Spirituality

We are interested in gathering information on how people think of spirituality and religiosity. Some people consider them to be different. The next two series of questions concerns your definition of a) religiosity and/or b) spirituality.

DIRECTIONS: Answer each of the following questions according to the scale below:

0 = not at all	2 = somewhat	4 = more than less	6 = completely
1 = very little	3 = partially	5 = a great deal	

1. To what extent do you define religiosity as aimed at attaining a desirable inner affective state such as comfort, anxiety reduction, security?
2. To what extent do you define religiosity as having, or striving to gain, meaning?
3. To what extent do you define religiosity as aimed at attaining personal growth, actualization, mastery, or self-control?
4. To what extent do you define religiosity as concern for others aimed at obtaining a better world?
5. To what extent do you define religiosity as hope?
6. To what extent do you define religiosity as having, or striving to gain, control over problems or the ability to solve problems?
7. To what extent do you define religiosity as negative means or ends such as gaining extrinsic rewards, feeling superior to others, or excuses to avoid personal responsibility?
8. To what extent do you define religiosity as feeling a connectedness with God, a Higher Power, the Divine, transcendent reality, or nature?
9. To what extent do you define religiosity as personal beliefs (e.g., a belief or faith in God, a Higher Power, the Divine, transcendent reality, nature, or personal values)?
10. To what extent do you define religiosity as personal worship or practices (e.g., prayer, Bible reading, or meditation)?
11. To what extent do you define religiosity as organizational practices or activities (e.g., attendance at services, performance at rituals, or church membership)?
12. To what extent do you define religiosity as commitment to organizational beliefs, or adherence to institutionally-based belief systems?
13. To what extent do you define religiosity as integrating one's value or beliefs with one's behavior in daily life (e.g., following God's will in one's life, demonstrating God's love to others)?
14. To what extent do you define religiosity as including a traditional notion of God?
15. To what extent do you define religiosity as including a belief in a Higher Power other than a traditional notion of God (e.g., nature, transcendent reality, universal human connection)?

If you consider religiosity and spirituality to be the same, please answer questions 16 through 30 exactly the same as questions 1 through 15.

DIRECTIONS: Answer each of the following questions according to the scale below:

0 = not at all 2 = somewhat 4 = more than less 6 = completely
1 = very little 3 = partially 5 = a great deal

16. To what extent do you define spirituality as aimed at attaining a desirable inner affective state such as comfort, anxiety reduction, security?
17. To what extent do you define spirituality as having, or striving to gain, meaning?
18. To what extent do you define spirituality as aimed at attaining personal growth, actualization, mastery, or self-control?
19. To what extent do you define spirituality as concern for others aimed at obtaining a better world?
20. To what extent do you define spirituality as hope?
21. To what extent do you define spirituality as having, or striving to gain, control over problems or the ability to solve problems?
22. To what extent do you define spirituality as negative means or ends such as gaining extrinsic rewards, feeling superior to others, or excuses to avoid personal responsibility?
23. To what extent do you define spirituality as feeling a connectedness with God, a Higher Power, the Divine, transcendent reality, or nature?
24. To what extent do you define spirituality as personal beliefs (e.g., a belief or faith in God, a Higher Power, the Divine, transcendent reality, nature, or personal values)?
25. To what extent do you define spirituality as personal worship or practices (e.g., prayer, Bible reading, or meditation)?
26. To what extent do you define spirituality as organizational practices or activities (e.g., attendance at services, performance at rituals, or church membership)?
27. To what extent do you define spirituality as commitment to organizational beliefs, or adherence to institutionally-based belief systems?
28. To what extent do you define spirituality as integrating one's value or beliefs with one's behavior in daily life (e.g., following God's will in one's life, demonstrating God's love to others)?
29. To what extent do you define spirituality as including a traditional notion of God?
30. To what extent do you define spirituality as including a belief in a Higher Power ***other than*** a traditional notion of God (e.g., nature, transcendent reality, universal human connection)?

APPENDIX C

Consent Form**Religiosity and Spirituality Study**

Thank you for taking time to complete this questionnaire. You have been invited to participate in a study on religiosity and spirituality. I appreciate your answers to these questions and hope you enjoying completing the questionnaire. This study is concerned with undergraduate students' religiosity and spirituality and how they approach life. You will be asked to read and answer some questions concerning your religious and spiritual beliefs, as well as some questions about how you approach life situations.

Your answers to the following questions will be kept confidential. Your answers will be used in conjunction with answers that you gave to questions included in the mass testing session in September, 1999. No identifying information (e.g. your name or student number) will be used in the analysis or presentation of the results of this study.

You are asked to read over the questions that follow and to answer them as truthfully as possible. You do not have to answer any question with which you feel uncomfortable, and you may drop out of this study at any time without penalty or the need for explanation. The researcher will be in the room to answer any questions you may have. It is expected that the completion of this questionnaire will take no more than 45 minutes of your time. You will receive one (1) bonus point towards your Introductory Psychology class mark for your participation in this research. There are no anticipated risks that you will be undertaking when completing this questionnaire, and this study may provide you with an opportunity to explore your feelings about your religiosity and spirituality.

I, _____, have read the above description and agree to participate and allow Imogen Hall to use the information you have provided in her Masters Thesis research. The procedure and its possible risks have been explained to me and I understand them. I understand that I am free to withdraw from this study at any time without penalty or need to explain. I also understand that the information that I provide may be published, but my identity will be kept confidential.

When you have completed the questionnaire, you will receive a description of the experiment, and will have the opportunity to request a copy of the results once they become available. If you have any questions regarding this study, please contact Imogen Hall, Department of Psychology, or Dr. Tanya Martini, Department of Psychology, at 519-253-3000 (ext. 2224). Questions regarding the ethical protocol of this study may be directed to Dr. Doug Shore, Psychology Ethics Committee Chair, at 519-253-3000 (ext. 2253).

 Signature

 Date

APPENDIX D
Life Orientation Test (LOT; Scheier & Carver, 1985)

Please answer the following questions about yourself by indicating the extent of your agreement using the following scale:

- [0] = strongly disagree
- [1] = disagree
- [2] = neutral
- [3] = agree
- [4] = strongly agree

Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

- _____ 1. In uncertain times, I usually expect the best.
- _____ 2. It's easy for me to relax.
- _____ 3. If something can go wrong for me it will.
- _____ 4. I always look on the bright side of things.
- _____ 5. I'm always optimistic about my future.
- _____ 6. I enjoy my friends a lot.
- _____ 7. It's important for me to keep busy.
- _____ 8. I hardly ever expect things to go my way.
- _____ 9. Things never work out the way I want them to.
- _____ 10. I don't get upset too easily.
- _____ 11. I'm a believer in the idea that "every cloud has a silver lining"
- _____ 12. I rarely count on good things happening to me.

APPENDIX E

Attributional Style Questionnaire (ASQ; Peterson et al., 1982)

Please try to vividly imagine yourself in the situations that follow. If such a situation happened to you, what would you feel would have caused it? While events may have many causes, we want you to pick only one - the *major* cause if this event happened to *you*. Please write this cause in the blank provided after each event. Next we want you to answer some questions about the *cause* and a final question about the *situation*. To summarize, we want you to:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the *major* cause of the situation if it happened to you.
3. Write one cause in the blank provided.
4. Answer three questions about the *cause*.
5. Answer one question about the *situation*.
6. Go on to the next situation

A. You meet a friend who compliments you on your appearance

1. Write down the *one* major cause _____
2. Is the cause of your friend complimenting you on your appearance due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when complimented on your appearance, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences being complimented on your appearance or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

B. You have been looking for a job unsuccessfully for some time

1. Write down the *one* major cause _____
2. Is the cause of your unsuccessful job search due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when looking for a job, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences looking for a job or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

C. You become very rich

1. Write down the *one* major cause _____
2. Is the cause of becoming very rich due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future if you become very rich, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences becoming very rich or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

D. A friend comes to you with a problem and you don't try to help

1. Write down the *one* major cause _____
2. Is the cause of your not helping your friend due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when you don't try to help, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences not trying to help a friend or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

E. You give an important talk in front of a group and the audience reacts negatively

1. Write down the *one* major cause _____
2. Is the cause of the audience reacting negatively due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when an audience reacts negatively, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences the audience reacting negatively, or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

F. You do a project that is highly praised

1. Write down the *one* major cause _____
2. Is the cause of your project being highly praised due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when you are praised highly for a project, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences being highly praised for a project or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

G. You meet a friend who acts hostilely to you

1. Write down the *one* major cause _____
2. Is the cause of your friend acting hostilely to you due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when your friend acts hostilely to you, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences your friend acting hostilely to you or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

H. You can't get all the work done that others expect of you

1. Write down the *one* major cause _____
2. Is the cause of you not getting all the work done due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when you are can't get all the work done, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences your not getting the work done or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
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I. Your spouse (boyfriend/girlfriend) has been treating you more lovingly

1. Write down the *one* major cause _____
2. Is the cause of your spouse (boyfriend/girlfriend) treating you more lovingly due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when your spouse (boyfriend/girlfriend) treats you more lovingly, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences your spouse (boyfriend/girlfriend) treating you more lovingly or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

J. You apply for a position that you want very badly (e.g. important job, graduate school admission) and you get it.

1. Write down the *one* major cause _____
2. Is the cause of your getting the position due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when you get a position that you want very badly, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences getting the position that you want very badly or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

K. You go out on a date and it goes badly

1. Write down the *one* major cause _____
2. Is the cause of your date going badly due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when a date goes badly will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences the date going badly or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
-------------------------	---------------	------------------------

L. You get a raise

1. Write down the *one* major cause _____
2. Is the cause of your raise due to something about you or to something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1 2 3 4 5 6 7	Totally due to me
--	---------------	----------------------
3. In the future when you get a raise, will this cause again be present? (Circle one number)

Will never again Be present	1 2 3 4 5 6 7	Will always be present
--------------------------------	---------------	---------------------------
4. Is the cause something that just influences getting a raise or does it also influence other areas of your life? (Circle one number)

Influences just This particular Situation	1 2 3 4 5 6 7	Influences all situations in my life
---	---------------	--
5. How important would this situation be if it happened to you? (Circle one number)

Not at all Important	1 2 3 4 5 6 7	Extremely important
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APPENDIX F

Self-rated Degree of Religiosity and Spirituality Items

Please answer the following two questions as truthfully as possible:

To what degree do you consider yourself religious? (Circle only one number)

1 2 3 4 5
Completely Not at all

To what degree do you consider yourself spiritual? (Circle only one number)

1 2 3 4 5
Completely Not at all

APPENDIX G
Religiosity and Spirituality Descriptor Items

Please place a checkmark beside one of the four items below that best describes your own religiousness and spirituality. (Choose only one statement)

- ☐ I am spiritual and religious
- ☐ I am spiritual but not religious
- ☐ I am religious but not spiritual
- ☐ I am neither religious nor spiritual

APPENDIX H

Beliefs About God Items

- Pantheistic:* “I believe that God (He or She) is all around us. I look at nature to see God. I see God in every person I meet. I believe God is in everything we do and touches every person.”
- Theistic:* “I believe God is a personal being who reigns over all creation, who looks after us, and listens to our prayers and praise. He or She responds to our need and protects us from evil.”
- Deistic:* “I believe God created the world and everything in it and then left us to fend for ourselves. God is no longer involved in the happenings of this world and looks down on us from above without ever intervening in our lives.”
- Agnostic:* “I am not sure what or who God is but I do think that it is beyond our understanding to comprehend such ultimate things. I often wonder if there is a God but I do not think that I will ever know for sure.”
- Atheistic:* “I do not believe that there is a God. I do not believe that God created the world or controls our affairs. There is no higher power that can intervene in our lives.”

APPENDIX I
Fundamentalism Items

To what extent does your present religious organization interpret their religious writings (e.g. the Bible, the Torah, the Koran) as literally or factually true?

1 2 3 4 5 6 7
Completely Not at all

To what extent does your present religious organization interpret their religious writings as timeless (i.e. the interpretation of them does not change according to current social beliefs)?

1 2 3 4 5 6 7
Completely Not at all

To what extent do followers of your present religious group organize their lives or determine how to act according to their religious writings?

1 2 3 4 5 6 7
Completely Not at all

To what extent do you consider your present religious organization to be “fundamental”?

1 2 3 4 5 6 7
Completely Not at all

APPENDIX J
Demographic Information Items

What is your present religious group/organization affiliation (e.g. Orthodox Jewish, Roman Catholic, Wicca, etc)? (please write in) _____

How long have you practiced this religion? _____

Please answer these questions about yourself:

How old are you? _____

What year of university are you in? _____

What is your ethnicity? (e.g. Caucasian, African-Canadian, Native-Canadian)

Do you presently live at home with your parents or legal guardian?

_____ Yes _____ No

If 'No', what are your current living arrangements? (e.g. dormitory room, apartment with friends, living with girlfriend, boyfriend, or spouse)

If 'No', how long have you lived away from home? _____

Please answer these questions about your parents or legal guardians:

What is your parents ethnicity?

Mother: _____

Father: _____

What religious group are your parents affiliated with?

Mother: _____

Father: _____

What was the highest level of education completed by your parent?

Mother: _____

Father: _____

What is your parents average yearly income level?

- ☐ Less than \$10,000
- ☐ \$10,000 - \$20,000
- ☐ \$20,000 - \$35,000
- ☐ \$35,000 - \$50,000
- ☐ \$50,000 - \$65,000
- ☐ \$65,000 - \$80,000
- ☐ \$80,000 - \$95,000
- ☐ over \$95,000
- ☐ Don't Know/No Answer

APPENDIX K

Debriefing Form

Dimensions of religiosity and spirituality: Relation with optimism

Researcher: Imogen E. Hall

This study has been designed to explore how several measures of religiosity and spirituality are related to optimism. Specifically, this study is intended to examine how undergraduate students define religiosity and spirituality, how beliefs about God are related to optimism, and how religious affiliation is related to optimism.

Although you were aware of the general topic of this questionnaire before filling it out, you were not told the specific goals of the research project. I hope that you now understand why you have completed this questionnaire and that this has been an enjoyable experience for you. If you have concerns or questions about this study, or if you wish to receive a copy of the results when they are available, do not hesitate to contact:

Ms. Imogen Hall, Masters Student
Department of Psychology, University of Windsor

or

Dr. Tanya Martini, Faculty Advisor
Department of Psychology, University of Windsor
519-253-3000 (ext. 2224)

APPENDIX L

Religiosity Component Items

<u>Component</u>	<u>Item</u>	<u>Component Loading</u>
1	1. Aimed at attaining a desirable inner affective state such as comfort, anxiety reduction, security	.77
“Personal Religiosity”	2. Having, or striving to gain, meaning	.80
	3. Aimed at attaining personal growth, actualization, mastery, or self-control	.82
	4. Concern for others aimed at obtaining a better world	.78
	5. Hope	.76
	6. Having, or striving to gain, control over problems or the ability to solve problems	.81
	8. Feeling a connectedness with God, a Higher Power, the Divine, transcendent reality, or nature	.67
	9. Personal beliefs (e.g., a belief or faith in God, a Higher Power, the Divine, transcendent reality, nature, or personal values)	.58
2	10. Personal worship or practices (e.g., prayer, Bible reading, or meditation)	.68
“Organized” Religiosity”	11. Organizational practices or activities (e.g., attendance at services, performance at rituals, or church membership)	.84
	12. Commitment to organizational beliefs, or adherence to institutionally-based belief systems	.81
	13. Integrating one’s value or beliefs with one’s behavior in daily life (e.g., following God’s will in one’s life, demonstrating God’s love to others)	.58
	14. Including a traditional notion of God	.70
3	7. Negative means or ends such as gaining extrinsic rewards, feeling superior to others, or excuses to avoid personal responsibility	.83
(Not retained)	15. Including a belief in a Higher Power <i>other than</i> a traditional notion of God (e.g., nature, transcendent reality, universal human connection)	.59

APPENDIX M

Spirituality Component Items

<u>Component</u>	<u>Item</u>	<u>Component Loading</u>
1	1. Aimed at attaining a desirable inner affective state such as comfort, anxiety reduction, security	.83
“Personal Spirituality”	2. Having, or striving to gain, meaning	.85
	3. Aimed at attaining personal growth, actualization, mastery, or self-control	.88
	4. Concern for others aimed at obtaining a better world	.73
	5. Hope	.66
	6. Having, or striving to gain, control over problems or the ability to solve problems	.79
	15. Including a belief in a Higher Power <i>other than</i> a traditional notion of God (e.g., nature, transcendent reality, universal human connection)	.42
2	8. Feeling a connectedness with God, a Higher Power, the Divine, transcendent reality, or nature	.74
“Organized Spirituality”	9. Personal beliefs (e.g., a belief or faith in God, a Higher Power, the Divine, transcendent reality, nature, or personal values	.72
	10. Personal worship or practices (e.g., prayer, Bible reading, or meditation)	.75
	11. Organizational practices or activities (e.g., attendance at services, performance at rituals, or church membership)	.74
	12. Organizational beliefs, or adherence to institutionally-based belief systems	.66
	13. Integrating one’s value or beliefs with one’s behavior in daily life (e.g., following God’s will in one’s life, demonstrating God’s love to others)	.68
	14. Including a traditional notion of God	.78
3 (Not retained)	7. Negative means or ends such as gaining extrinsic rewards, feeling superior to others, or excuses to avoid personal responsibility	.87

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VITA AUCTORIS

Imogen Hall was born on November 9, 1974 in Halifax, Nova Scotia. She graduated from Queen Elizabeth High School in 1992. Imogen then attended Acadia University in Wolfville, Nova Scotia, where she obtained a BScH in Psychology in 1996. She is currently pursuing her PhD in Child Clinical Psychology at the University of Windsor.